# Midlands Advanced Manufacturing Survey 2022.

Midlands Regional Skills Forum - Department of Further & Higher Education, Research, Innovation and Science - 2022.



An Roinn Breisoideachais agus Ardoideachais, Taighde, Nuálaíochta agus Eolaíochta Department of Further and Higher Education, Research, Innovation and Science





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## Who We Are: Midlands Regional Skills Forum.

The National Skills Strategy to 2025, provides a framework for skills development that drives Ireland's growth both economically and societally. One of the key elements of the Strategy was the development of a National Skills Council (NSC) and nine Regional Skills Fora (RSF). The Fora structure fosters engagement and collaboration between relevant Government Departments and agencies, the education (Further and Higher) and training system, and enterprise.

The RSF seek to bring people together at local and regional levels, to identify, interrogate, and validate skills needs; and to ensure that employers and enterprise are linked with the appropriate resources across the education and training system. The RSF provide an opportunity for employers and the education and training system to work together to meet the emerging skills needs of their regions. The RSF work to ensure the availability of skills and talent to realise the regions' economic potential and address upskilling requirements.

The Midlands RSF (see Appendix A for full membership panel) has developed very strong and productive working relationships with all of the key participants involved in the successful realisation of the National Skills Strategy. Progressive engagement with the Regional Enterprise Plan Steering Committee; and directly with the Regional Enterprise Development Office, enterprise development agencies (such as IDA Ireland and Enterprise Ireland); along with the LEOs, Education and Training Board (ETBs), Skillnets, TÚS:MMW, and other agencies serving the third level sector; has contributed to strong socio-economic growth in the Midlands Region.

## **Survey Introduction.**

The Midlands Advanced Manufacturing Action Plan 2021-2024 is an outcome of the Midlands Regional Enterprise Plan to 2020. The Midlands Advanced Manufacturing Action Plan was developed by key regional stakeholders, for delivery over the 2021-2024 period. The Action Plan consists of 21 actions across four thematic areas:

- 1. Education, Training & Skills.
- 2. Research & Innovation.
- 3. Support infrastructure & networks.
- 4. Strengthening the manufacturing industry base FDI and Indigenous sectors.

The Midlands Regional Skills Forum (MRSF) is leading on Thematic Area 1: Education, Training & Skills. As such, the MRSF with assistance from regional education and training partners, designed the Advanced Manufacturing Survey to elicit a snapshot of Midlands manufacturers' opinions in many diverse areas that are relevant to Advanced Manufacturing.

The survey ascertained and collated Midlands manufacturers' views in several areas including critical vacancies, skills needs, digital transition as it pertains to the manufacturing sector, and curriculum development & provision.

The survey has provided both insights and data that will inform and guide the MRSF, the Advanced Technologies in Manufacturing cluster (atim), ETBs, Higher Education Institutes such as TÚS:MMW, and Skillnet Ireland in facilitating the recruitment and development of talent which is most relevant for manufacturing employers in the Midlands region. The survey results will also inform the development and provision of high quality and sustainable education & training at all levels.

It is hoped that recommendations, formulated after collaborative review of the collated data by the survey team, will guide the MRSF and its regional stakeholders as they engage with employers to identify and avail of the most suitable regional and national supports that will best address current & future critical vacancy and training needs of each business.

The Midlands Advanced Manufacturing Survey Working Group wish to extend their appreciation to Ann Marie Murray for her contribution to the design and publication of this survey outcomes report. https://annmariemurraydesign.com

# **Demographics**.





### Respondent Demographics

The primary focus for the demographic representation in the survey was to capture a snapshot across a mix of Midlands manufacturers in terms of company sizes and manufacturing activities. The survey respondents (n = 41) participating in The MRSF Advanced Manufacturing Survey represent a diverse collection of manufacturing activities as shown in Figure 1. The "Other" category included such areas as Precast Concrete, IT & Computer Hardware, Building & Industrial Materials, and Biological Resources. Company size (numbers of employees) of the respondents was also distributed rather equally, ranging from Micro (<10) to Large (250+). Overall, the demographics for this survey of Midlands manufacturers are very much in line with the demographics from a recent national manufacturer survey conducted by Ibec which collected data from 108 respondents.<sup>1</sup>

#### **Company Size**



Over 5,000 people are employed by the manufacturing companies that participated in the survey. Seventy-five percent of the respondents can be classified as small to medium enterprises (SMEs).

Demographics.



#### Other Category includes: Precast Concrete, IT & Computer Hardware, Building & Industrial, Biological Resources

# Methodology.



# Methodology.

The survey was conducted from 1 April 2022 through 31 May 2022.

The survey working group was made up of education and skills partners from the Midlands region (see Appendix B for full survey working group membership).

#### The strategies used by the survey team to facilitate engagement in the survey by Midlands manufacturers included:



Participation in the survey was voluntary. All responses are fully protected in accordance with GDPR guidelines.

Creation and subsequent participation in survey was accomplished using Microsoft Forms. The full survey is available to view in Appendix D.

- Methodology.

# **Key Findings.**







Types of Engineers included: Civil, Mechanical, Process, Automation, Electrical, Radio Frequency, Polymer, and Project.

Other vacancies included: Supply Chain Manager, Site Installer, Drivers, and Data Analyst.

-Key Findings.



The survey results show that Operatives (both entry-level and experienced) and Engineers (specialising in a wide variety of disciplines) are the most urgent needs currently and projected into the future by regional manufacturers. 60% of respondents selected one or both of the Operative categories (entry-level and experienced) as a critical vacancy and over 50% saw Engineers as a critical vacancy.

These categories can be seen to somewhat represent the entry-level end and more advanced-level ends of a spectrum across a company-wide distribution of employment opportunities. Entry-level roles are considered to be those which typically involve direct engagement with the end product being produced by the manufacturer. Advanced-level roles would more likely involve the product design and the development of strategic manufacturing & distribution processes and procedure.

Along the middle of such a spectrum we can see a relatively consistent shortage of talent in the areas where employees have direct engagement with not only the product but the manufacturing machinery as well. These roles include, Technicians, Apprentices, Fabricators, and Welders. Critical vacancies were identified in these areas by 20% - 29% of respondents.

# Key Skills Needs.

Many key skills needs were qualitatively identified in the MRSF Advanced Manufacturing Survey as being relevant to midlands manufacturers. The skill types have been categorised into three main classifications.

#### Transferable / Functional

Actions taken to perform a task, transferable to different work functions and industries.

#### **Knowledge Based**

Typically certified; understanding of specific subjects, procedures, and information necessary to perform particular tasks

#### Personal Traits / Attitudes

Traits or personality characteristics that contribute to performing work.

- Key Findings.

# **Three Types of Skills Classification Model**



Key Findings.



## **Employer Engagement** Course Development & Provision Format.

There seems to be a good deal of flexibility in terms of preferences for how and when education and training programmes are delivered to the employees of manufacturers in the survey. In terms of course provision format, there are several options typically available.



Nearly two-thirds of the survey respondents indicated that a blended approach was most preferred.

Regarding timeframes which best suited employers to release staff for training; full-day (39%) & half-day time (32%) slots were nearly equally preferred. Another 20% of the respondents indicated that either full-day or half-day suited their needs.

The remaining 9% indicated that timeframes for training would be

dependent upon production schedules and other subjective tangibles. Additionally, Over 70% of respondents indicated that they were available to offer input regarding course design and curriculum proposals to help facilitate the education and training needed to meet current and future talent & skills needs.

Key Findings.

# Midlands Manufacturers Preferred Training Formats.



-Key Findings.

## **Current VS Future Skills Needs.**

Overall, the findings for current and future skills needs showed a consistent pattern across all categories. On average, future skills needs exceeded current skills needs by an average of around 8% across the board.

Technical & Operational and Automation & Robotics were the two areas with the highest percentage (ranging from 51% to 68%) of respondents indicating both current and future skills needs.

Data Analytics, Programming & Coding, and Cybersecurity were deemed as the least current and future skills needs. However, those areas were indicated as still currently relevant (approximately <sup>1</sup>/<sub>4</sub> of respondents indicated a need) and relevant for the future (approximately 1/3 of respondents indicated a need). The Use of Digital Tools, as both a current and future skills need, also was selected by over 1/3 of the respondents.

There are a group of skills categories; that while may be management driven are key current and future skills needs to be embraced across all employees at organisations. Such areas as Quality & Lean Management, Communication & Collaboration, Critical Thinking, and Change Management were indicated as Skills Needs in varying degrees ranging from 34% to 56% of respondents.



#### **Colour Key** -Current Future 54% **Technical &** Operational 68% 51% **Automation & Robotics 59%** 27% Data Analysis 34% 24% **Programming & Coding** 34% 24% Cybersecurity 27% 37% **Use of Digital Tools 49%** 44% **Quality &** Lean Management 51% 34% **Communication, Collaboration** & Change Management 41% 46% **Critical Thinking 56%**

# **Current VS Future Skills Needs.**

## **Advanced Manufacturing**

#### Areas Where Regional Manufacturers Would Like More Information.

Future Digital Skills Relevant to Their Own Type of Manufacturing dominated this survey topic. Over 80% of respondents would like more information in this area. Participation in Curriculum Design also scored very highly at an over 70% rate. Current Training Available (42%), Digital Strategy (39%), and Digital KPIs (34%) were all deemed as important to varying degrees.

Interestingly, Career Progression Pathways scored the lowest with just 29% of respondents interested in gaining more information in this area. This area may prove to ultimately be a key in the design of individualised employer recruitment and progression strategies. Such outlines which highlight opportunities at a manufacturing enterprise could go a long way towards the recognition and development & training of a sustainable talent pool for Midlands manufacturers. A conceptual sample of such Progression Pathways can be seen in Appendix C.

Key Findings.



# **Conclusions.**



# Conclusions.

Overall the MRSF Advanced Manufacturing Survey has proved to be a very valuable tool which has gleaned the views of Midlands manufacturers in a number of areas relevant to critical vacancy and upskilling needs. The data collected by the MRSF Advanced Manufacturing Survey is a quite comprehensive representation of the employers' opinions from the diversity of manufacturing categories and company sizes that are prevalent in the Midlands.

The impetus for the survey was guided by a number of regional and national skills strategic plans which call for all Regional Skills Fora to engage with local industry in a manner which ensures that that regional employers are fully aware of all available skills development and training offered within the region and nationally.

Through development and administration of this Advanced Manufacturing Survey, the Midlands Regional Skills Forum has embraced and addressed key actions as outlined by:



The survey allowed employers to share both quantitative and qualitative responses in a wide variety of Advanced Manufacturing related areas.

Conclusions.

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# **Critical Vacancies.**



Critical vacancies in the Manufacturing Sector can be broadly defined as unfilled positions at a company which significantly affect key performance measures such as production, guality-control, research & development, and customer-engagement metrics. The positions are considered critically important to both current and future business strategies. Critical vacancies can exist along the full spectrum of employees at an enterprise, from entry-level through more advanced roles. This is highly in line with the survey results showing Operatives and Engineers as the areas with the most critical vacancies.

Since 2015, through collaboration of all regional stakeholders working for the greater public good, significant progress has been made within the region to increase employment rates. 32,100 more people are in employment as measured from Q1 2015 to Q4 2020. This was an increase of 29.6%, whilst the unemployment rate also fell from 14.8% to 6.3% (within 1% of the state average). While the unprecedented social and economic challenges of BREXIT and COVID-19 did see the unemployment rate rise to 7.8% in Q2 2021, the most recent critical-position data from the Bureau of Labour and Statistics in May of 2022, reported Ireland's seasonally adjusted unemployment rate was at 4.7 percent, the lowest since April of 2020, easing from 4.8 percent in the prior month and well below the 6.9 percent in the corresponding month of the previous vear.<sup>5</sup>

Such a low unemployment rate can mean that the availability of talent at all levels is increasingly scarce, especially as the Irish labour market continues to recover from the pandemic across all sectors. The demand for workers to fill critical vacancies is high and is reflected in the findings of the MRSF Advanced Manufacturing Survey. While the COVID-19 pandemic resulted in some migration from several service-oriented sectors towards jobs in manufacturing there still remains noticeable deficits for the Manufacturing sector.



## Key Skills Needs.

While Critical Vacancies identify a quantitative measure of employers' needs, Critical Skills Needs represent a more qualitative measure of the most relevant current and future skills required by employers.

The qualitative responses with regards to Key Skills Needs are extremely enlightening findings. Key Skills identified by Midlands manufacturers were categorised by the survey team in accordance with the three categories as defined by SkillScan, an assessment tool used by thousands of career development professionals in universities, community colleges, Fortune 500, medium and small corporations.<sup>6</sup>



Conclusions.

The three categories lend themselves very well when considering overall skills needs as well as the development of innovative educational and career pathways.





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Let us look first at Personal Traits/Attitudes (traits or personality characteristics that contribute to performing work. Developed in childhood and through life experience). It would seem as though that these would be an ideal way to identify potential candidates for employment at any position level and highly relevant for entry-level manufacturing operative positions which are indicated in the survey as one of the most prominent critical vacancies. Personality Trait and Attitudinal Measurement (subjective via interview and/or objective using personality measures common among many recruitment protocols) are very viable means for selecting suitable employment candidates.

Secondly, we can envision Transferable/Functional Skills (actions taken to perform a task, transferable to different work functions and industries) as the first step in a candidate's journey along an educational or career pathway. These can be seen as based on previous experience, previous education & training, demonstrated ability, and aptitude which can all be assessed through measured performance in fundamental or core modules for a given discipline. The Recognition of Prior Learning (RPL) can also be seen as perhaps a demonstrative concept of how individuals may acquire Transferable/Functional Skills.

The final category known as Knowledge-Based Skills represents a typically certified understanding of specific subjects, procedures, and information necessary to perform particular tasks. These are typically acquired through formalised education &, training as well as on-the-job experience and training. The specificity of these skills often requires advanced formalised education, however, RPL may also contribute in this category to an individual's overall skills set.

A systematic approach using a Key Skills based philosophy seems to offer an efficient and effective approach when the goal is to design a relevant and sustainable talent pool. The potential for development of innovative and sustainable educational and career pathways based on data collected from the MRSF Advanced Manufacturing Survey is a major contribution that this project as a whole could lead to.

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# **Employer Engagement.**

# Course Development & Provision Format

The level of willingness by Midlands manufacturers to engage with the development of curriculum for training and education courses is very strong, as over 70% of survey respondents indicated that they would participate in this area. Additionally, Midlands manufacturers are very flexible with regards to how and when training would be suitable to accommodate their needs.





A blended approach towards the provision of training was most preferred, which is highly representative of the new era post-COVID. A much more normalised advocacy of education and training utilising such a blended approach using elements of onsite. offsite. and online training mechanisms is in fact the new norm and perhaps a silver-lining from the COVID-related disruption of the status quo in both employment and educational settings. The landscape ahead will surely be defined by blended approaches to both education and employment.

Conclusions.

# **Employer Engagement.**

This flexibility will present both opportunities and challenges to most employers, especially manufacturers. A primary worksite location is a major requirement for most employers in the Manufacturing sector as the production line is most likely a stationary physical requirement. Staffing and maintaining the production line to its normal capacity is of course vital.

However, there may be a need for employees/learners to attend offsite education & training environments for practical skills training that if done in-house would disrupt the normal manufacturing schedule and production. It also may prove to be a huge challenge for employers to release staff to an offsite location without jeopardising production. In sum, there is indeed the need for education and training in the Manufacturing sector to likely include both onsite and proximal offsite training venues. Getting the balance right is going to be crucial.

Additionally, the survey showed that Midlands manufacturers recognise the need for upskilling, training, and education at a company-wide scale.

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Conclusions.

# **Current VS Future Skills Needs.**

Technical and Operational Skills were shown to be the number one area where Midlands manufacturers had the greatest needs. This coincides with the findings that identified Operatives (Entry-Level & Experienced) and Engineers as their most critical vacancies. These areas are relevant currently and predicted to be relevant in the future as well.

Interestingly, the skills most relevant for a successful progression towards Digital Transition (Data Analytics, Programming & Coding, and Cybersecurity) scored the lowest in terms of Current and Future Skills Needs. These findings suggest the need for greater awareness of the relevance of an overall digital agenda. There are excellent incentivised government funded programmes and initiatives available at local and national levels. Flexible provision of state agency funded courses and programmes is readily available at further & higher education providers such as TÚS: MMW and ETBs. Such opportunities may be underutilised due to a lack of awareness on behalf of regional employers with regards to the full benefits and incentives available to them. There is tremendous flexibility, in terms of provision formats for digital skills programmes at all levels. Thus, an opportunity exists for strategic marketing of upskilling and training programme campaigns which highlight the diverse, flexible, and incentivised nature of programmes available to Midlands manufacturers.

Conclusions.

As the Digital Transition swings into full gear, especially in the realm of Advanced Manufacturing, the digitisation of company information and subsequent digitalisation which adapts a business model resulting in advanced processes, actions, and increasingly automated procedures means that an enormous amount of data will now be created and manipulated. A lack of a full understanding of the power and importance of Digital Transition may put the very survival of an organization in jeopardy.<sup>7</sup> In order to fully thrive in the era of Digital Transition, a company will need to embrace digital upskilling from the ground floor up. Basic digital skills as offered by such programmes as EXPLORE are presently under-utilised as a fully-funded government initiative. Springboard+ also offers a wide variety of digital skills related courses at further and higher programme levels that employees and employers should avail of to a greater degree. The present promotion of digital skills courses is rather good as seen by the efforts of national Regional Skills Fora, formal institutional education providers, and government sponsored training facilities. However, it may be time to look more closely at the barriers which exist that adversely affect the uptake of these upskilling and training opportunities. A novel and progressive facilitation of digital upskilling and training, which perhaps encompasses additional incentivisation, will surely benefit Midlands manufacturing enterprises in the realisation of relevant talent and sustainable economic benefits.

While Digital Transition will offer companies tremendous cost-saving and revenue-generating opportunities, the flip side of the coin can be very bleak in the wake of a cybersecurity breach. With so much digital data being generated and incorporated into business models, the protection of such information needs to be highly monitored. An acute and evolving awareness of cybersecurity issues must be vigilantly maintained. Cybersecurity was considered the lowest of concerns for Midlands manufacturers in the survey at both current (less than 25%) and future (less than 30%) skills needs. This certainly is an area that needs to be addressed.

Additional Current and Future Skills Needs identified in the survey were in the areas of Communication/ Collaboration, Problem Solving/ Critical Thinking, and Quality & Lean. Regionally based education and training providers, and enterprise support bodies are best placed as facilitators to engage at a management level with Midlands manufacturers to offer advice and assistance in the development of company-wide strategies to address these needs.



Conclusions.

# Advanced Manufacturing

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Areas Where Regional Manufacturers Would Like More Information.

There are a number of areas that Midlands manufacturers would like more information on. At the top of the list, over 80% of respondents indicated that they would like more information on Digital Skills that are relevant to their own type of manufacturing. Related topics to this overall interest in Digital Skills included Digital KPIs and the development of Digital Strategies. Addressing these needs will likely involve a collaborative effort again with regionally based associations and agencies such as Enterprise Ireland and the atim Cluster that would be key players in the development and distribution (seminars, webinars, online tutorials, etc.) of the selected elements of Advanced Manufacturing topics that regional manufacturers are most interested in.

There is strong interest (over 70%) in the Participation in Curriculum Development while there is only a modest interest (29%) in Career Progression Pathways. The lower interest in gaining more information about Career Progression Pathways is somewhat incongruous with the finding in the survey that nearly 60% of the employers indicated that they do offer progression pathways to

their employees. This would suggest that companies would welcome assistance in the development of pathways for employees. A lack of clear career progression has been shown to be one of the main reasons workers are choosing to leave their job roles.<sup>8</sup> It may also be that a lack of clear career progression pathways is also a barrier to recruitment. In summary, the areas of curriculum development and career pathways may in tandem represent a holistic type approach to an opportunity for increased engagement among employers, education & training providers, and local manufacturing-related agencies. The Midlands Regional Skills Forum. through its established and constant engagement activity among all the stakeholders, is well positioned to facilitate such collaboration. Indeed, the Forum's integrated understanding of critical roles within manufacturing companies and the availability of regional educational & training opportunities helped galvanise the conceptualisation of a Career Progression Pathway Flowchart (Appendix C) which may prove quite successful going forward.

# **Recommendations.**



## **Recommendations.**

Based on the findings from the MRSF Advanced Manufacturing Survey 2022, there are several key areas where recommendations have been considered by the survey team. The recommendations are not exhaustive and are flexible in nature as further input from Midlands manufacturers needs to be considered before any final actions are engaged in. The recommendations are meant to be an initial stage in the development of any programmes and initiatives that will truly benefit employers, employees, and the Midlands Manufacturing sector as a whole. Subsequent collaboration among employers, education & training providers, industry & enterprise agencies, the MRSF, and government representatives needs to be efficient, effective, and sustainable in order for supports associated with any of the recommendations to be realised to their full potentials.

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#### **Recommendation 1:** Critical Vacancies.

In terms of Critical Vacancies, there are two areas that standout; Operatives (Entry-Level & Experienced) and Engineers.

1.1 Pursue - Recruitment strategies to be considered:

- Explore the potential for the establishment of a Midlands Regional Manufacturing recruitment service (Network or other agency sponsored).
- EURES. (Greater promotion of this resource through engagement with regional employers. This resource is vast and underutilised).
- Promote awareness and strengthen links between employers and higher & further education centres which offer potential placement resources such as Careers Connect at TÚS:MMW.
- Develop Employer/ Affiliate Stakeholder sponsored Courses & Apprenticeships. (TUS-Athlone and IMR to develop a new Robotics/ Advanced Manufacturing Apprenticeship).
- Propose the possibility of "employee-sharing" among manufacturers if there are compatible processes and differing times/ seasons when one manufacturer is busy while another is slow.
- Identify incentives for employers to attract and retain talent (explore innovative strategies that other regions, sectors, are using successfully as incentive measures).
- Identify recruitment barriers which may exist in the Manufacturing sector (i.e. re-branding the term "Operative" - Production Associate, Manufacturing Assembler).
- Encourage the establishment of clear plans for Career Pathways available within the Manufacturing Industry and available at individual Employers.

#### **Recommendation 2:** Key Skills Needs.

- 2.1 MRSF Follow-up MRSF will follow-up with survey participants and perform more in-depth Skills Audits. Subsequent individualised sign-posting to currently available training and education.
- 2.2 Key Skills Courses Development of more Entry-level Operative Courses (i.e. -Certificate in Manufacturing Operations L6). One presently available in Cork for Pharma Manufacturing and a similar one in Hospitality is available at TÚS-MMW (Athlone Campus). There needs to be an examination of how effective these L6 courses are in producing candidates for Entry-Level positions. There may need to be the development of shorter (i.e. 4-6 week) L3/L4 courses made available that are designed to identify and prepare potential candidates for Entry-Level positons with all categories of manufacturers. Curriculum for such generic courses might include basic onboarding modules such as: Health & Safety, Manual Handling, Safe Pass, Good Manufacturing Practice, Clean Room protocol, Communication Skills, Conflict Resolution, Workplace Terminology, EXPLORE, etc.

#### **Recommendation 3:** Digital Tools & Supports.

Midlands manufacturers have expressed a strong interest in gaining more information regarding Future Digital Skills relevant to their own type of manufacturing. However, this is slightly contradicted by additional findings associated with Current and Future Skills needs whereby the three lowest priorities were The Use of Digital Tools, Programming & Coding, and Cybersecurity. An important recommendation based on these survey findings suggests additional engagement with employers which is focused on addressing this disparity by promoting a greater awareness in these areas as part of an overall progression along a comprehensive and collaborative advanced manufacturing journey for companies in the Midlands region.

**3.1 Demystify digital concepts** - Digitisation vs. Digitalisation vs Digital Transition (employers need a very clear understanding of exactly what these terms mean). It is worth noting that when asked by the survey "What Does Advanced Manufacturing Mean to You?", only 12% of respondents gave an answer which referenced Digitisation, Digitalisation, and/or Digital Transition. Create a series of engagements (online forums, webinars, campaigns) and tools to support manufacturers understanding the suite of digital tools available and their application in solving business challenges.

**3.2 Peer-to-Peer Learning and Collaboration** - Foster opportunities for Midland-based manufacturing companies to work together collectively to share case studies of digital transition and map-out tools.

**3.3 Develop a coherent digital strategy** - Digital transition requires a holistic approach for companies to reap the rewards. Support Midland companies to develop a coherent digital strategy which includes development of company-specific technology roadmap including the future training & skills required. The pathways/courses required by companies to deliver their strategy will be an integral part of this document.

**3.4 Support Digital Culture Change** - Digital Culture is a pre-requisite for organisational digital transition. Organisational culture can either be a roadblock or a catalyst for digital transition. It is recommended to develop a programme to support manufacturing leaders based in the region to develop the knowledge, skills and competencies required to lead change and complexity in a time of digital transition. This to include an exploration in to the adoption of low cost, low code digital tools that will have an immediate business impact with moderate levels of skill required.

#### **Recommendation 4:** Curriculum Design.

- Midlands manufacturers have also expressed a strong interest in the participation of Curriculum Design. Initially there would need to be in-depth collaboration among manufacturers and education & training providers in order to identify programmes and courses that are most needed in the Midlands in order to meet current critical vacancy and upskilling needs. The immediate needs in both these areas would seem to necessitate a fast-track type approach whereby qualified candidates could be made available in the shortest term possible. Key modules which are transferrable across the manufacturing sector should be a priority as well as a closer examination of assessment tools that allowed for greater Recognition of Prior Learning (RPL) that could translate to success and advancement in the manufacturing sector.
- Once key modules are identified, the curriculum design can then move forward in a manner, which while initially focused on current needs, would also have flexibility to address future needs as they arise and remain sustainable. In addition to the content of any courses or programmes developed by collaboration, the opportunity exists for strong input from employers in terms of the context or provision mechanisms by which courses and programmes are delivered. This area is where a blending of onsite and offsite training, that suits all parties involved, can be incorporated into the overall curriculum design.



# Concluding Remarks.

#### **Concluding Remarks.**

It should be noted that a crucial aspect related to any innovative or novel approach to creating and sustaining a talent pipeline for Midlands manufacturers will be a dependence on educational providers and employers themselves to fully commit to the development and provision requirements of such recruitment, upskilling, training, and higher education programmes. Commitment from employers, educational providers, and funding agencies needs to include not only a collaborative effort to succeed but also a collective willingness to participate in a manner whereby the burden (participation in curriculum) development, costs for the provision of training, recognition of lost man hours on production lines/every day working roles, etc.) is shared. Additionally, it is very clear that with such shortages of talent, regionally and nationally, that there may need to be consideration of approaches which further incentivise prospective training programmes and initiatives; whether it be entry-level or advanced. Further research into just what incentives would be most desirable by potential employment candidates needs to be explored.

When it comes to the strategic acquisition and development of talent from entry-level positions all the way through to senior management, the development of sector and corporate progression pathways (ref. Appendix C) may greatly benefit the manufacturing sector as a whole and individual organisations. Such a holistic approach which fosters the development of talent in a comprehensive employment-life-cycle manner has the potential to generate industry and company talent pools that are engaged, appreciated, fulfilled, and loyal.

# References & Appendices.



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# Appendix A: MRSF Membership.

Mr John Mc Kenna - MRSF Chair & Vice President for Strategic Planning, Institutional Performance, Equality and Diversity at TUS:MMW
Mr Ken Whitelaw - Regional Manager at International Development Association (IDA) Ireland
Ms Antonine Healy - Director of Further Education & Training (FET) at Longford Westmeath Education & Training Board (LWETB)
Mr Tony Dalton - Director of Further Education & Training (FET) at Laois Offaly Education & Training Board (LOETB)
Mr Mark Atterbury - Regional Development Executive at Enterprise Ireland (EI), Midlands Office
Mr Ciaran King - Construction Industry Federation (CIF) Representative for the Midlands
Ms Anne Naughton - Projects Coordinator Graduate Studies, Research & Innovation at Skills For Growth
Ms Catherine Collins - Network Manager at First Polymer Skillsnet
Ms Tracey Tallon - Senior Enterprise Development Officer at Local Enterprise Office (LEO) Westmeath
Mr Paddy Mahon - Chief Executive at Longford County Council
Ms Helen Leahy - Head of Regional Policy at Irish Business and Employers Confederation (Ibec)
Dr Michael Tobin - Dean of Faculty Continuing, Professional, Online and Distance learning at TUS:MMW
Ms Sarah Morgan - Programme Manager for Midlands Regional Enterprise Plan
Mr John Costello - Manager of Midlands Regional Skills Forum
Ms Avril Browne - Human Resources & Training Officer at Glanbia Cheese EU, Portlaoise, Co. Laois
<b>Ms Elma Ravenhill -</b> Finance and Human Resources Manager at Critical Healthcare, Tullamore, Co. Offaly
Ms Caitríona Mordan - Cluster Manager at advanced technologies in manufacturing (atim)

# Appendix B: Midlands Advanced Manufacturing Survey Working Group.

John Costello -	Midlands Regional Skills Forum - Manager	
Caitríona Mordan -	Advanced Technologies in Manufacturing- Cluster Manager	
Catherine Collins - First Polymer Training Skillnet - Network Manager		
Ronan Murray -	Longford Westmeath Education &Training Board - Training Manager	
Padraig Boland -	Laois Offaly Education & Training Board - Training Manager	
Sarah Morgan -	Midlands Regional Enterprise Plan - Programme Manager	
Eric LaBranche -	Midlands Regional Skills Forum - Administrator	

#### Appendix C: Career Progression Pathway Flowchart – (conceptual)



—— References & Appendices.

#### Appendix D: Midlands Advanced Manufacturing Survey.

#### 1. Company Name.

#### 2. What Manufacturing sector categorises your company?

- Polymers, Chemicals, & Plastics
- Pharmaceuticals & Medical Technologies
- Electronics & Computers
- Food Production
- Metal Manufacturing
- Wood, Leather, & Paper
- Automation
- Other

#### 3. What size is your company (number of employees)?

- □ Micro (<10)
- □ Small (10-49)
- Medium (50-249)
- Large (250+)

#### 4.Contact Name.

#### 5.Contact Email.

#### 6. Hard to fill/ Critical Vacancies. [Can choose more than one category].

- Operatives/ Entry Level
- Operatives/ Experienced
- Welders
- Fabricators
- Apprenticeships
- Technicians
- Engineers (specify type of engineers in Other box below)
- Other

7. Key Skills Required for Vacancies (please list basic skills, educational and/or experience requirements that are needed by candidates to fill your vacancies).

# 8. Are you confident that your current and future vacancies can be filled by talent available locally and/or nationally?

Appendix D.

Part of the second s

□ No



#### 9. Does your company offer career progression pathways in Advanced Manufacturing which enables workers to progress to higher level positions? [Can select multiple answers]

□ Yes □ No

Would like information on developing Career Progression Pathways.

# 10. Could your upskilling needs be addressed by providing currently available training programmes for your employees? [Can select multiple answers]

I Yes

□ No

• Would like information on availability of current training programmes

# 11. What format of training best suits the needs of your company? [Can select multiple answers]

Offsite at an Educational Provider

• Onsite at your company

• Online – interactive webinars/ workshops (live)

• Online – interactive webinars/ workshops (recorded)

Blended format with elements of Offsite/ Onsite/ Online

🛛 Other

# 12. What time-frame best suits to release staff for up-skilling? [If "Other" then please specify]

Full Day ReleaseHalf-day Release

Other

# 13. Are you available to offer input regarding course design/ curriculum proposals for career progression education & training?

I Yes

□ No

#### 14. What does "Advanced Manufacturing" mean to your organisation?

# 15. Do you have a digital strategy embedded within your business plan? [Can select multiple answers]

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□ No

• Would like information on embedding digital strategies into a business plan.



# 16. Do you have role descriptions/ Key Performance Indicators (KPIs) that align with your overall digital vision? [Can select multiple answers]

Part A Yes

□ No

Would like information on KPIs that would align with an overall digital vision.

# 17. Please select the skills gaps that you currently have in your business (if any). [Can select multiple answers]

Data Analytics

- Technical equipment/ operational skills
- Use of digital tools
- Programming and coding
- Automation/ Robotics
- □ Communication, collaboration and change management
- Problem-solving/ Critical Thinking
- Quality/ Lean
- Cybersecurity

Other

#### 18. Please select the skills you anticipate that your organisation will need into the future to deliver your future business strategy. [Can select multiple answers]

Data Analytics

- Technical equipment/ operational skills
- Use of digital tools
- Programming and coding
- Automation/ Robotics
- □ Communication, collaboration and change management
- Problem-solving/ Critical Thinking
- Quality/ Lean
- Cybersecurity
- Other

# 19. Would you like more information with regards to the digital skills that will likely be relevant to your type of manufacturing organisation into the future?

□ Yes □ No

20. Please select from the following levels; the areas where you require talent, skills training, and/or support to grow your advanced/digital manufacturing capability [Can select multiple answers]

- Leadership Management
- Senior Management
- In Middle Management
- Graduate/ Entry Level
- Company Wide

21. Please indicate here any questions/ concerns or additional information you would like us to help you with.





"If everyone is moving forward together, then success takes care of itself."

-Henry Ford





